

## CLAIMS

1. A system comprising logic configured for:  
counting transitions between data on a bus and data to be put onto the  
bus;  
5 complementing the data to be put onto the bus where the counted  
transitions exceeds a threshold;  
putting complemented data on the bus where the threshold was  
exceeded; and  
10 putting un-complemented data on the bus where the threshold was not  
exceeded.
2. The system as recited in claim 1, wherein the logic configured for  
counting transitions comprises a ripple counter.
- 15 3. The system as recited in claim 1, wherein the logic configured for  
counting transitions comprises a binary tree.
4. The system as recited in claim 1, wherein the logic configured for  
counting transitions comprises a carry look-a-head counter.
- 20 5. The system as recited in claim 1, additionally comprising logic  
configured for setting the threshold at one-half of a width of the bus.
6. The system as recited in claim 1, additionally comprising logic  
25 configured for setting a signal to indicate complemented and un-  
complemented data.
7. The system as recited in claim 1, additionally comprising logic  
30 configured for setting a signal according to a number of transitions  
relative to the threshold.

8. The system as recited in claim 1, additionally comprising logic configured for:

obtaining data from the bus;

checking a signal to determine if the data has been complemented;

5 and

where the data has been complemented, un-complementing the data.

9. A system comprising logic configured for:

obtaining data from a data bus;

10 checking a signal to determine if the data has been complemented;

and

where the data has been complemented, un-complementing the data.

10. A method of transmitting data, comprising:

15 counting transitions between data on a bus and data to be put onto the bus;

complementing the data to be put onto the bus where a number of transitions exceeds a threshold;

20 putting complemented data on the bus where the threshold was exceeded ; and

putting un-complemented data on the bus where the threshold was not exceeded.

- 25 11. The method as recited in claim 10, wherein counting the transitions comprises counting the transitions using a ripple counter.

12. The method as recited in claim 10, wherein counting the transitions comprises counting the transitions using a binary tree.

- 30 13. The method as recited in claim 10, wherein counting the transitions comprises counting the transitions using a carry look-a-head counter.

14. The method as recited in claim 10, additionally comprising setting the threshold at one-half of a width of the bus.
- 5 15. The method as recited in claim 10, additionally comprising setting a signal to indicate complemented and un-complemented data.
- 10 16. The method as recited in claim 10, additionally comprising:  
obtaining data from the bus;  
checking a signal to determine if the data has been complemented;  
and  
where the data has been complemented, un-complementing the data.
- 15 17. A bus configured for low power consumption and low EMI emissions, comprising:  
a transition counter, to count transitions between a first data transmission and a second data transmission and to compare the counted transitions to a threshold;  
a data complement module, to complement the second data transmission where the threshold was exceeded;  
20 a driver circuit to change voltages on data lines from the first data transmission to the second data transmission; and  
a complement indicator, to operate a signal to indicate if the second data transmission is complemented.
- 25 18. The bus of claim 17, wherein the transition counter comprises a ripple counter.
19. The bus of claim 17, wherein the transition counter comprises a binary tree counter.
- 30 20. The bus of claim 17, wherein the transition counter comprises a carry look-a-head counter.

21. The bus of claim 17, wherein output of the transition counter controls operation of the data complement module and the complement indicator.
- 5 22. The bus of claim 17, additional comprising:  
a complement detector communicate to monitor the signal line; and  
a data de-complementing module to de-complement the data, if  
indicated by the signal line.
- 10 23. The bus of claim 17, additional comprising:  
a complement detector, to detected the signal indicating that the data  
transmitted is complemented.
24. The bus of claim 17, additional comprising:  
15 a data de-complementing module, to reverse changes made by the  
data complement module.
25. A system for data transmission, comprising:  
means for counting transitions between data on a bus and data to be  
20 put onto the bus;  
means for complementing the data to be put onto the bus where the  
counted transitions exceeds a threshold;  
means for putting complemented data on the bus where the threshold  
was exceeded; and  
25 means for putting un-complemented data on the bus where the  
threshold was not exceeded.
26. The system as recited in claim 25, wherein the means for counting  
transitions comprises a binary tree.
- 30 27. The system as recited in claim 25, additionally comprising means for  
setting the threshold at one-half of a width of the bus.

28. The system as recited in claim 25, additionally comprising means for setting a signal to indicate complemented and un-complemented data.
- 5 29. The system as recited in claim 25, additionally comprising means for setting a signal according to a number of transitions relative to the threshold.
- 10 30. A processor-readable medium comprising processor-executable instructions for:  
counting transitions between data on a bus and data to be put onto the bus;  
complementing the data to be put onto the bus where the counted transitions exceeds a threshold;  
15 putting complemented data on the bus where the threshold was exceeded; and  
putting un-complemented data on the bus where the threshold was not exceeded.
- 20 31. The processor-readable medium as recited in claim 30, additionally comprising instructions for setting the threshold at one-half of a width of the bus.
- 25 32. The processor-readable medium as recited in claim 30, additionally comprising instructions for setting a signal to indicate complemented and un-complemented data.
- 30 33. The processor-readable medium as recited in claim 30, additionally comprising instructions for:  
obtaining data from the bus;  
checking a signal to determine if the data has been complemented;  
and  
where the data has been complemented, un-complementing the data.

34. The processor-readable medium as recited in claim 30, additionally comprising instructions for:  
obtaining data from the bus;

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checking a signal to determine if the data has been complemented;

and

where the data has been complemented, un-complementing the data.

35. A processor-readable medium comprising processor-executable instructions for reading data from a bus, the processor-executable instructions comprising instructions for:

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obtaining data from a data bus;

checking a signal to determine if the data has been complemented;

and

where the data has been complemented, un-complementing the data.

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